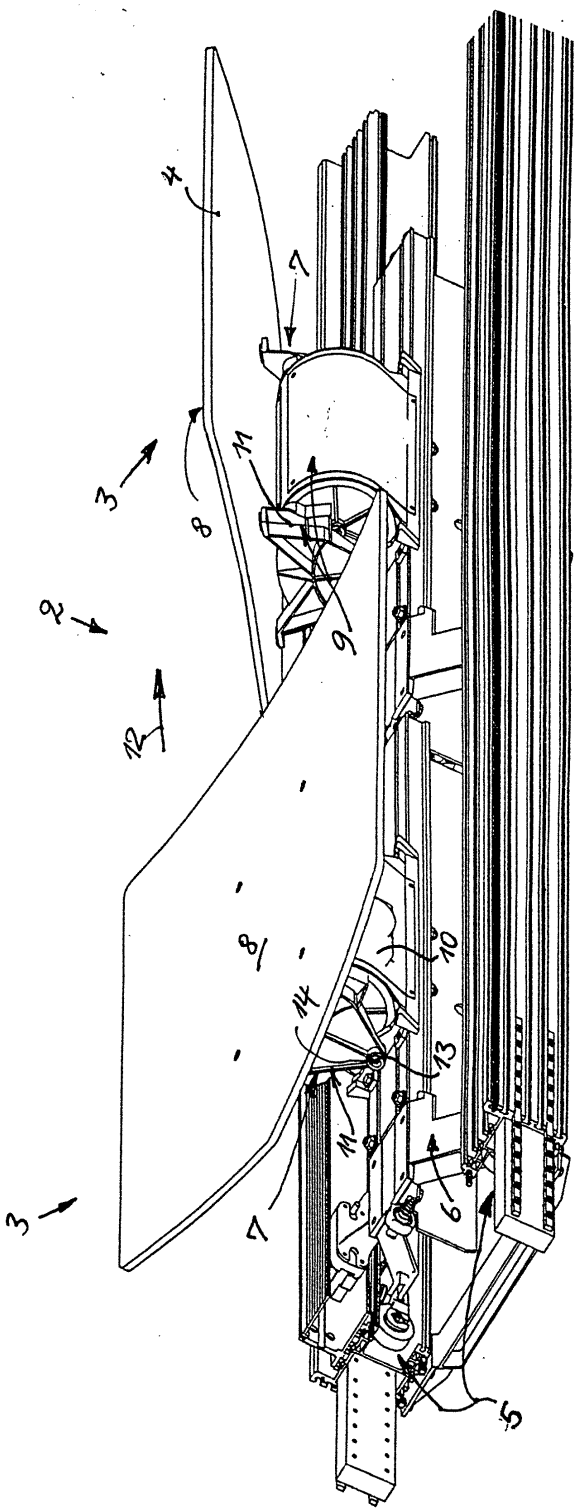


FIG. 1

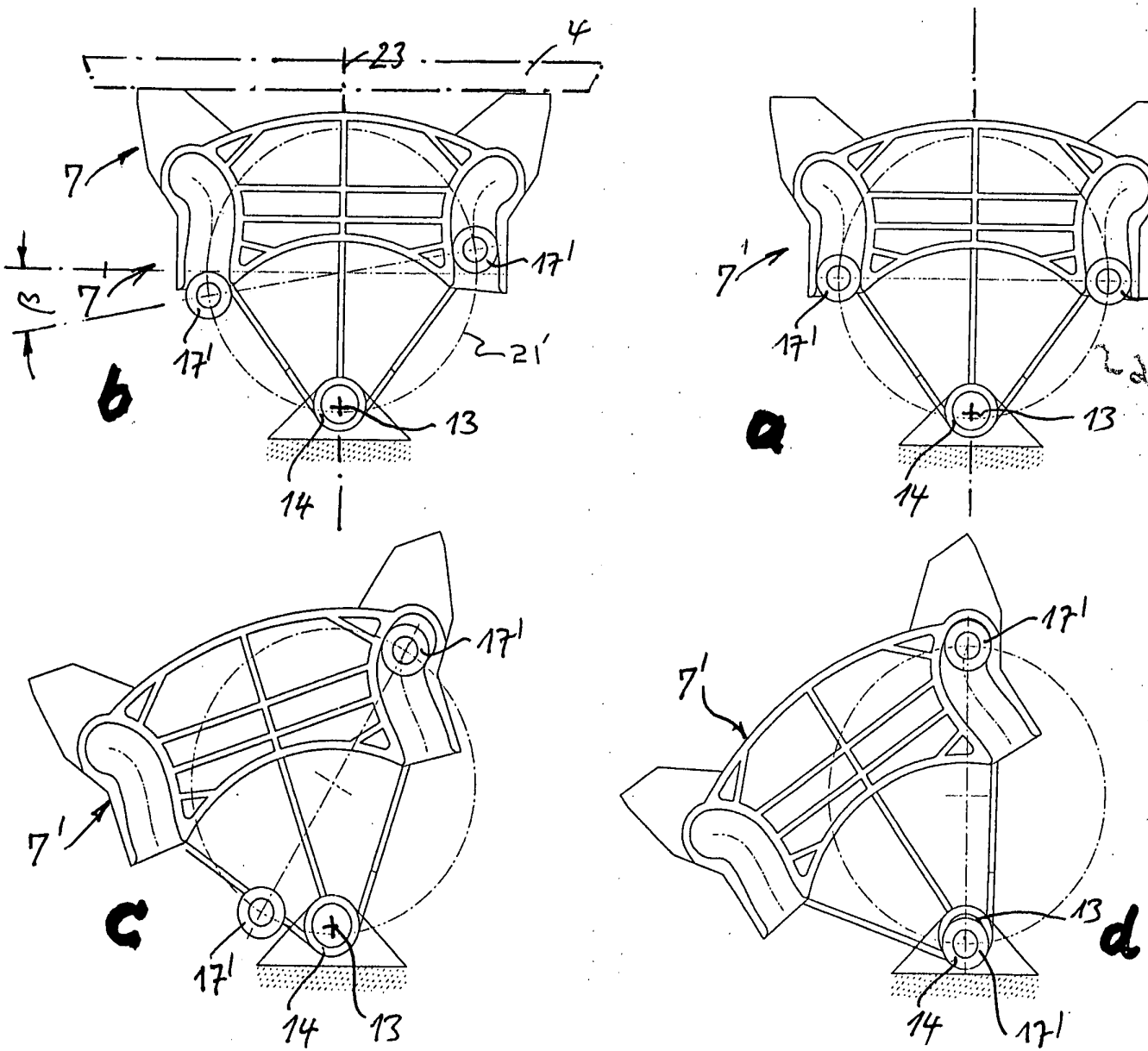


FIG.2

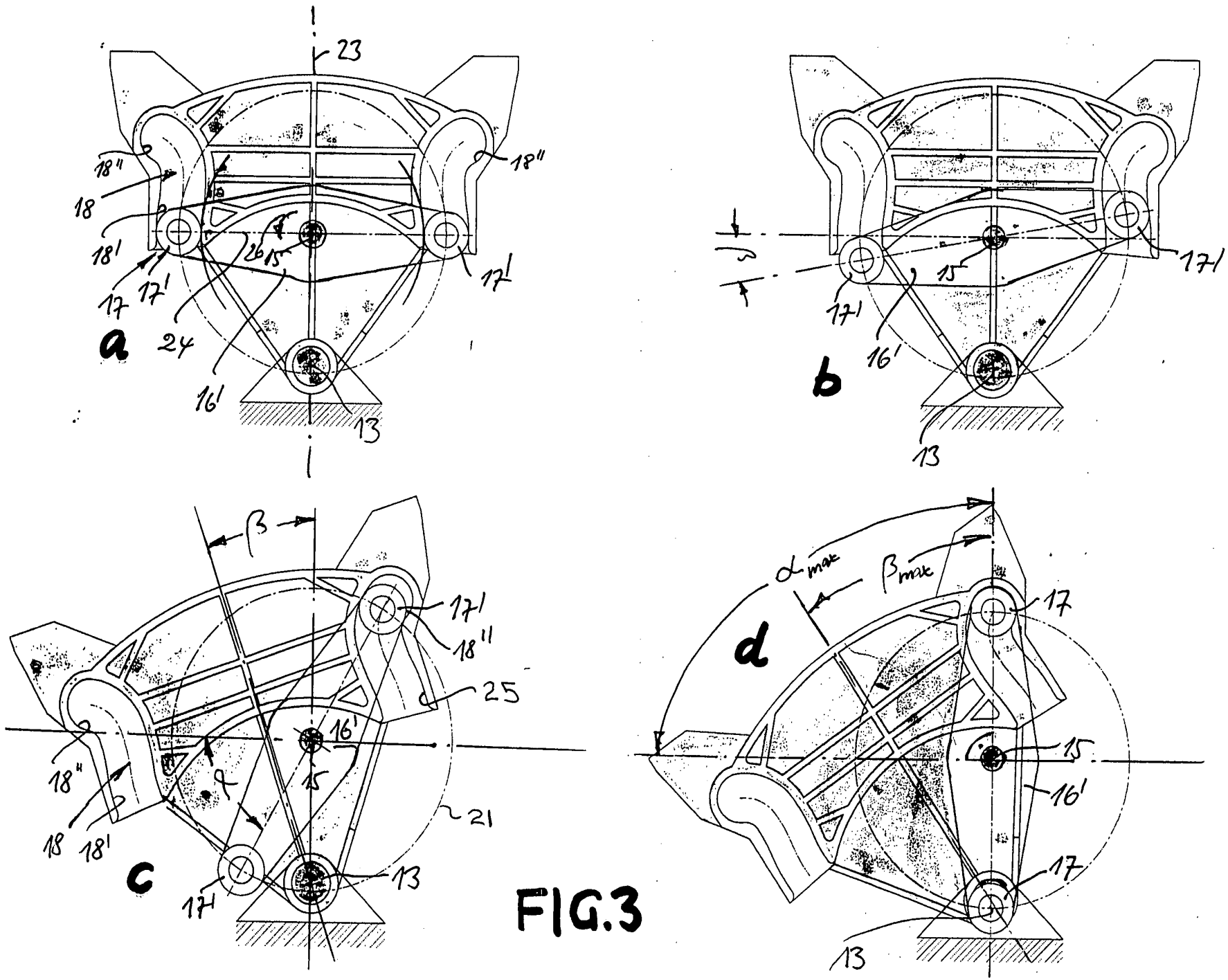

23
18''
18
18'
17
17'
26
15
24
16'
13
a
18''
17'
b
17'
15
16'
13
β
17'
18''
25
16'
18''
18
18'
15
21
17
13
c
α max
β max
17
d
15
16'
17
13

FIG.3

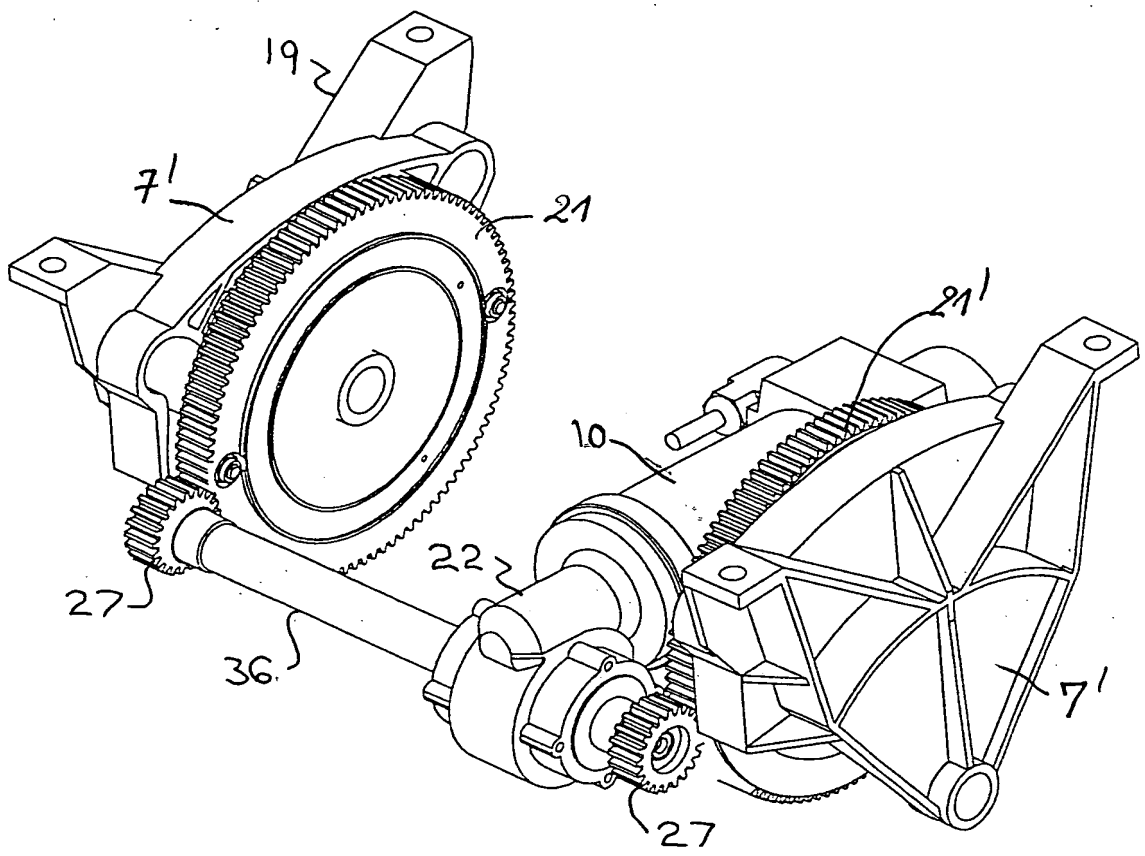
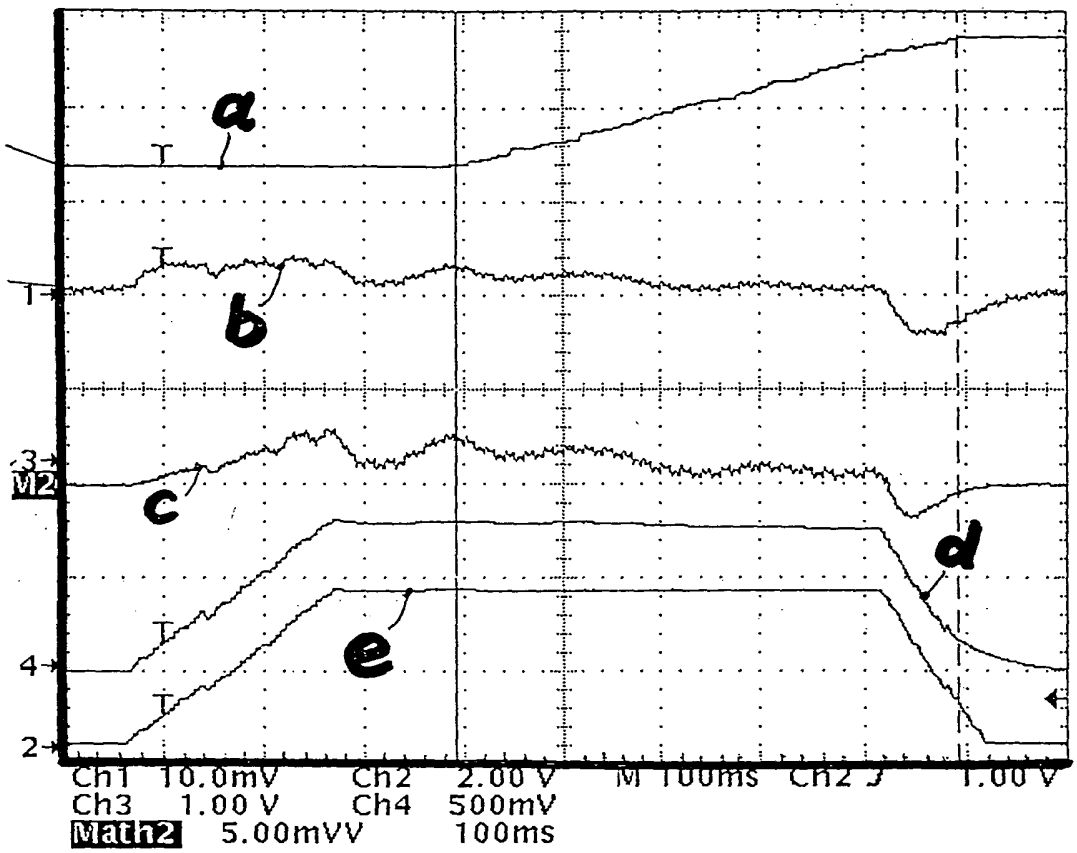


FIG. 4


a
b
c
d
e
M2
Ch1 10.0mV Ch2 2.00 V M 100ms Ch2 J 1.00 V
Ch3 1.00 V Ch4 500mV
Math2 5.00mVV 100ms

A
B
C
D
E

FIG.5

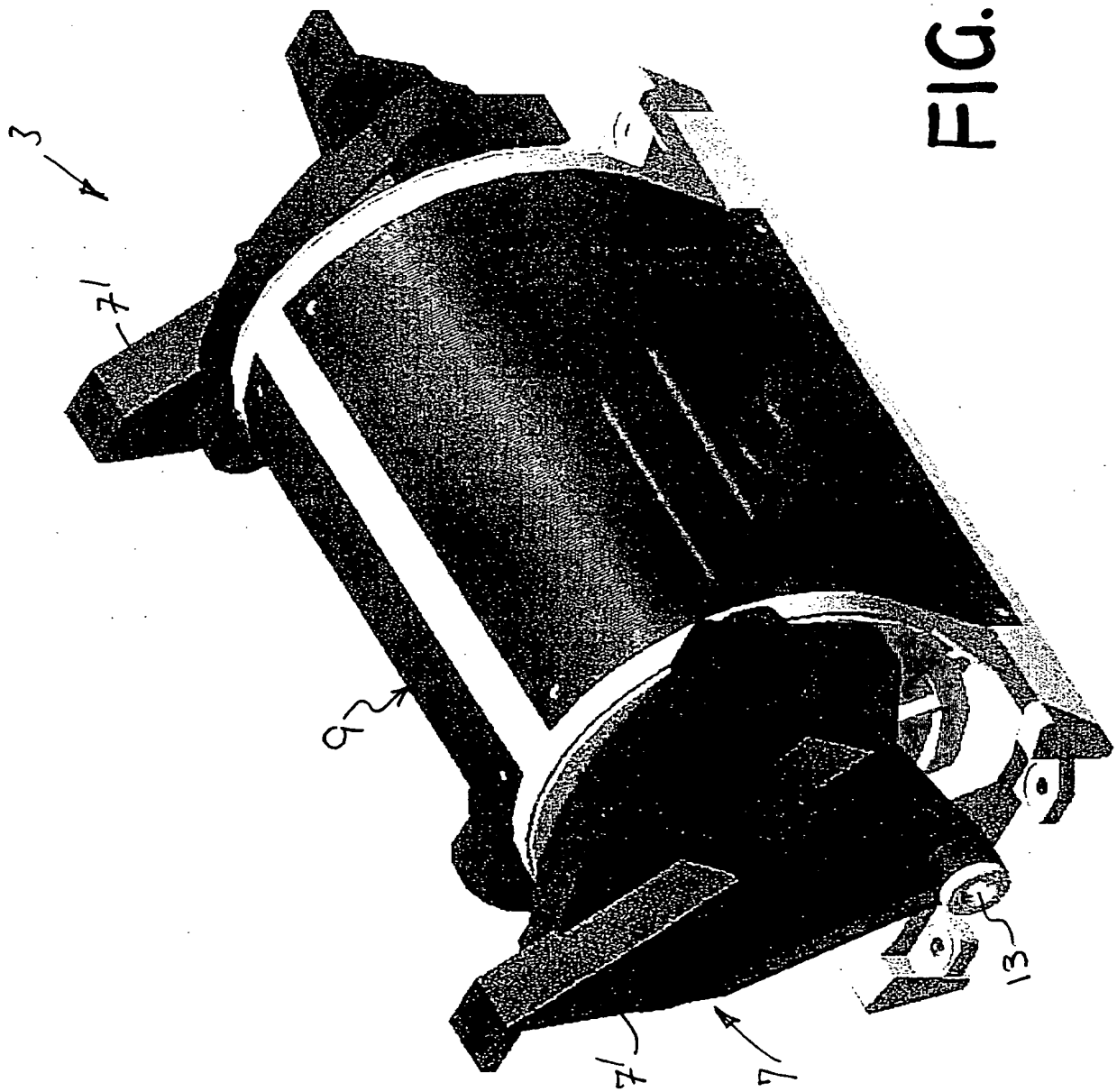


FIG. 6

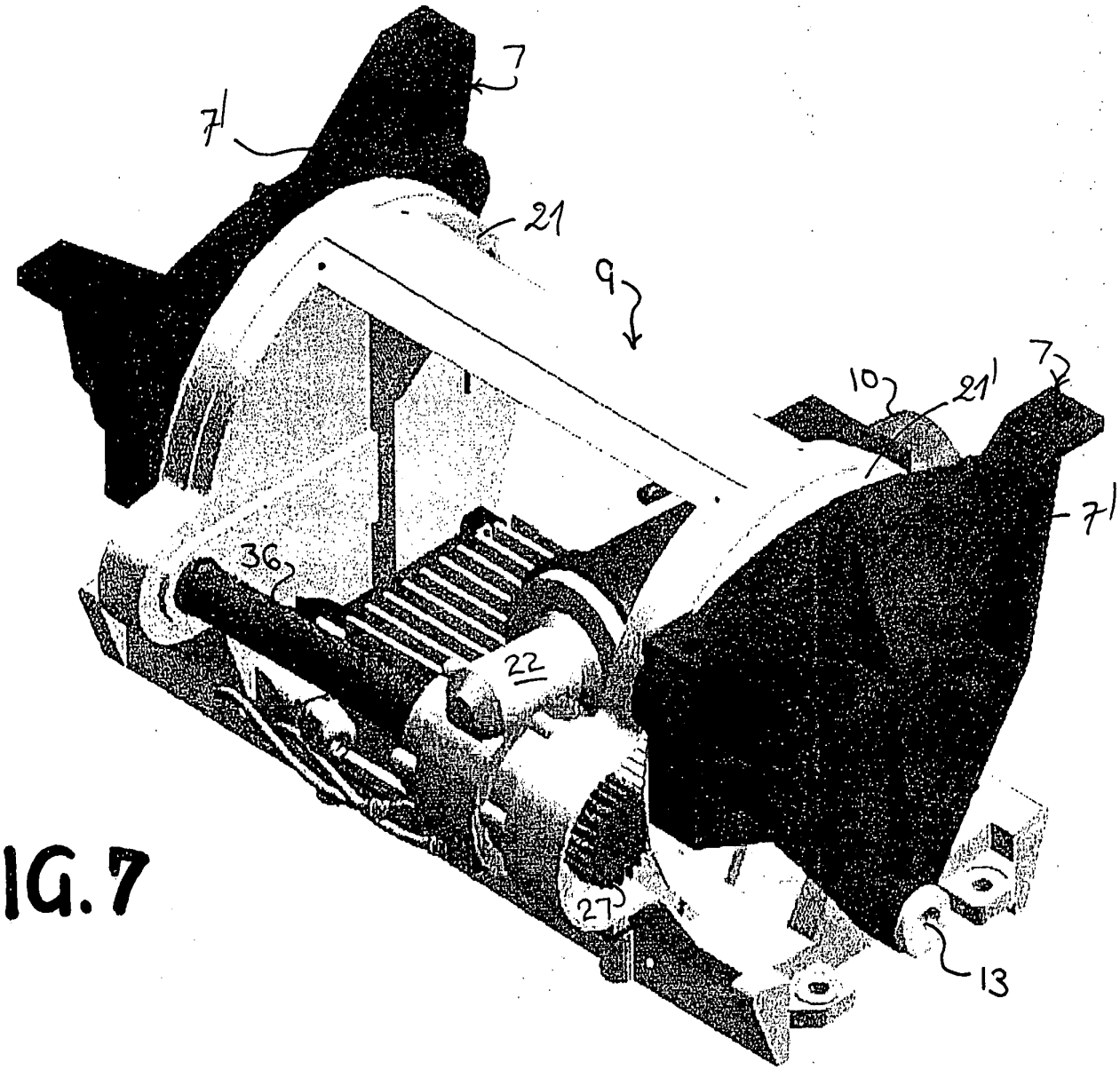


FIG.7

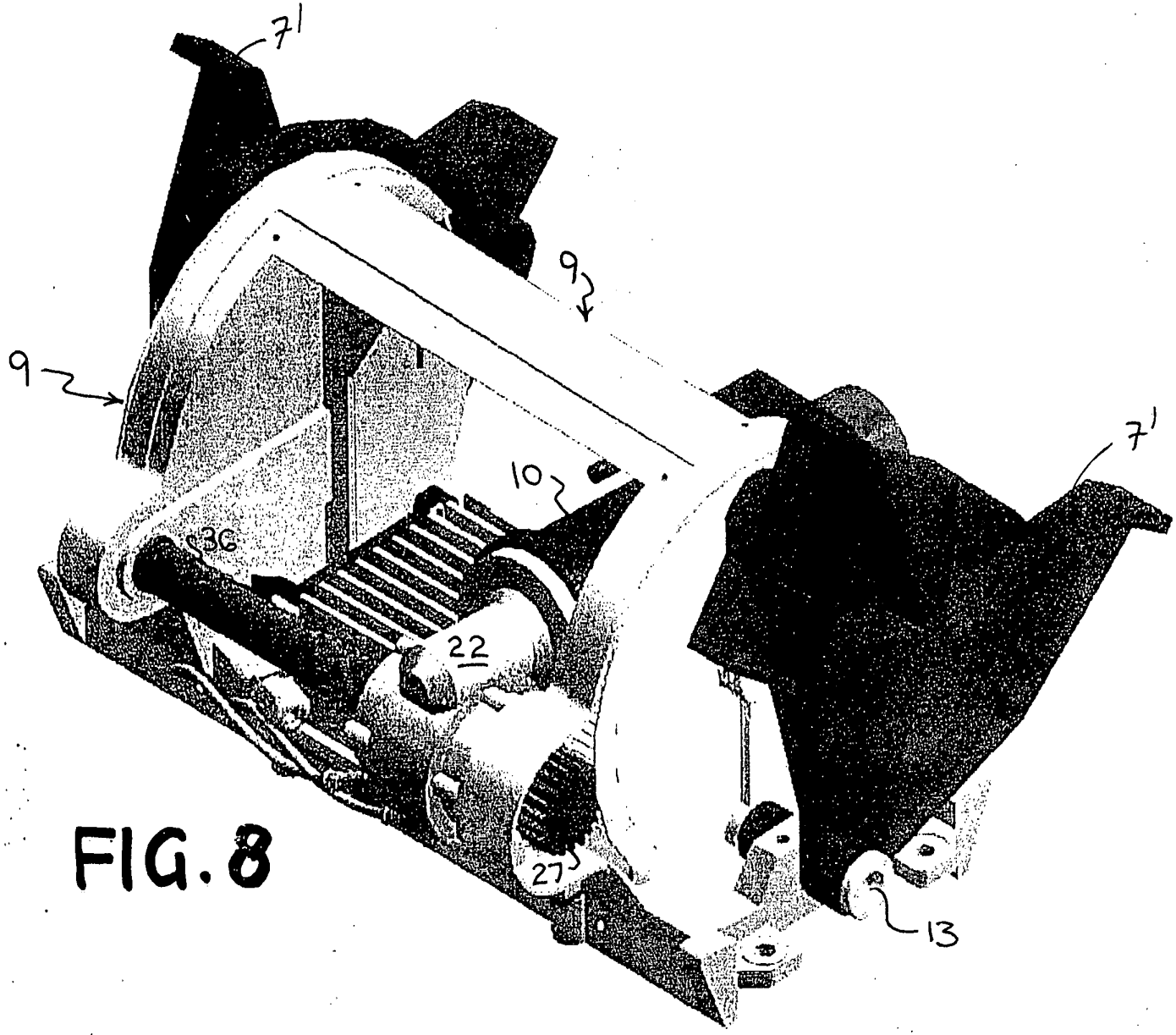


FIG. 8

Fig. 9

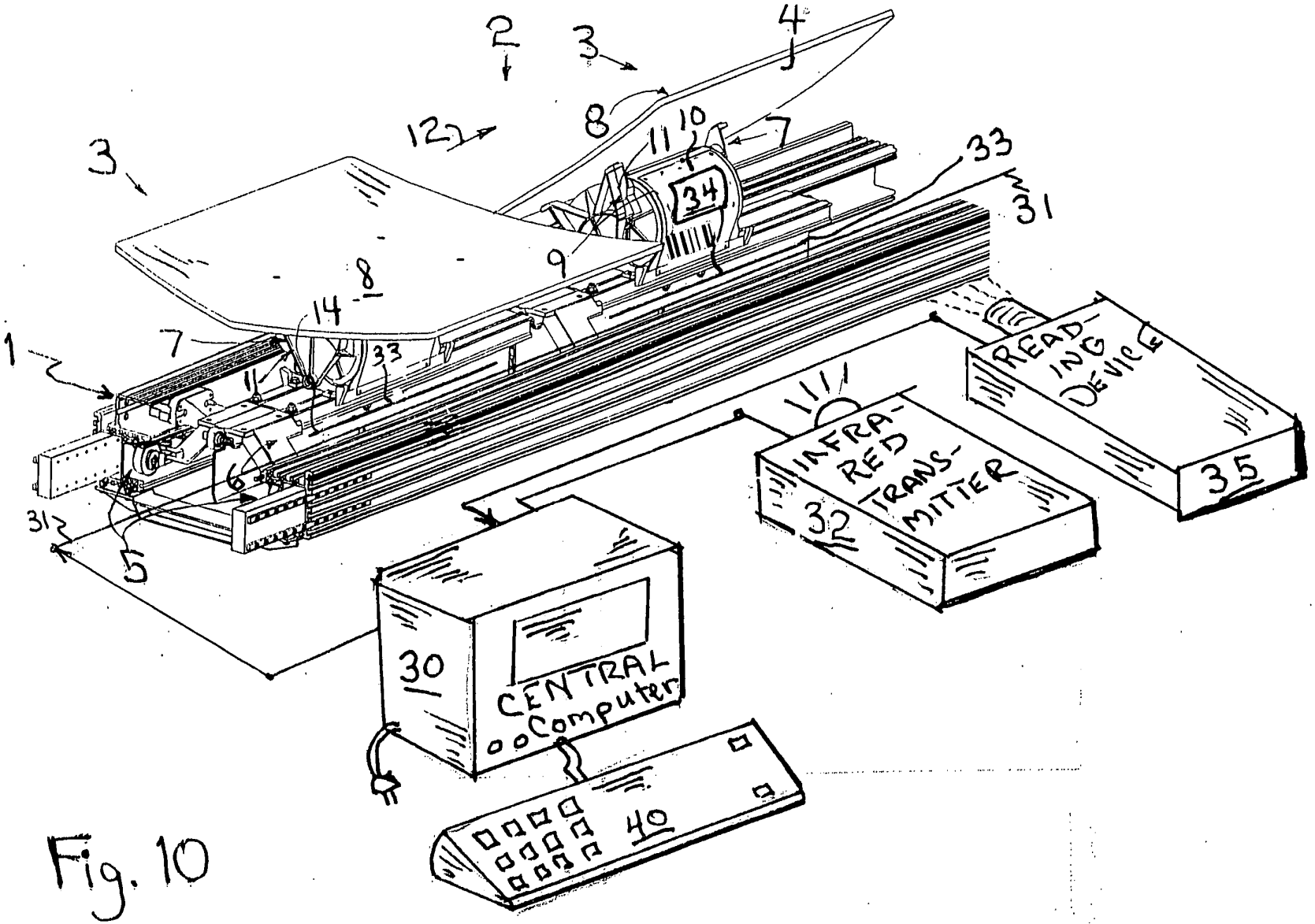

2
3
4
12
8
11
10
7
33
31
34
9
14
1
6
5
INFRA-
RED
TRANS-
MITTER
32
READ-
ING
DEVICE
35
30
CENTRAL
Computer
40

Fig. 10